

Foliar Fertilizing and When to Fall Prune Deciduous

By Charlie Mosse, November 2024

Those are an odd pairing of topics. But I wanted to share some satisfactory results with foliar fertilizing in fall and winter and, I ran across some useful information on deciduous trees.

Foliar fertilizing is a good method to add supplemental nutrition. Growers have been using foliar fertilization for over 75 years and it is now well understood.

Discussing it now seems to be odd timing. However, foliar fertilizing can be done all year, in most areas. I started using it in fall and all winter on weak branches a few years ago. The results were good by using it consistently. I have several ficus, a shimpaku juniper, and a few boxwoods that benefitted from the experiment. Now I use it all of the time with certain fertilizers, preferring Neptune's Harvest Fish/kelp, Miracle-Gro and SUPERthrive. I follow the directions for foliar application with the SUPERthrive but reduce the label rate for the others. There are other fertilizers and trace element supplements formulated for foliar application.

Foliar fertilization necessity is due mostly to an underlying problem. Common causes are:

- Root diseases cause root rot or interference with nutrient uptake.
- Damaging root and/or leaf insects where infestation is bad.
- pH too high or too low, for us the pH is usually too high causing some nutrients to become unavailable to the roots.
- Excessive salts due to any combination of our water, over fertilizing or using highly concentrated fertilizers at full dosage. Full doses can cause salt spikes at the wrong time like during heat waves.
- Excessive macro-nutrients, e.g., too much calcium or potassium interfering with micro-nutrient uptake.
- Soil stays too wet or too dry, for too long. This is more of a problem in containers than in the ground.

However, it can be used to enhance the look of a plant by darkening leaf color or to apply only to weaker branches that could use a bit more energy to help balance the growth.

The goal is to correct the problem(s) causing the leaf discoloration, chlorosis or lack of growth. Most foliar applied nutrients are NOT moved (translocated) through the plant but remain localized in the leaf or in the stem close to the leaf. So, the benefits of this method are not always realized throughout the entire plant---see article.*

The amount of nutrients actually absorbed is highly variable, anywhere from 5-20%. Other reports show about 5% or less. Absorption depends on:

- The nutrient itself and what chemical form it is in. i.e. Nitrogen: Is it ammonia, nitrate, urea or organic. Phosphate is low, potassium and traces elements are better.
- Concentration of the nutrients when applied. Too low is better since it can be applied more often, whereas too high a concentration increases the chances that damage will occur.
- Temperature---not too hot, not too cold...just right. This is usually 50 to 75 degrees.
- Reasonable level of humidity. If below 20%, wait until it is cool or humidity rises.
- How it is applied. Mist or very fine sprays stay on the leaf better. Heavy spray or deluge run off leaving very little residual.
- Leaf waxiness can be a problem. That is where mist or a very fine spray are best.
- Leaf make-up: thin, thick, fuzzy, hairy, stomatal structure affects absorption.
- Newly understood structures are micropores located in the cuticle. These very tiny structures that take up a lot of the foliar applied nutrients---See article.
- What area of the leaf has the best absorption capability? **The lower surface has more stomata and micropores** but be sure to cover the entire leaf.

Misting with supplements is best and should be done in cooler times of the day when more stomata are open. Mist ALL surfaces and even green stems. Younger bark can also absorb about 2% that is applied but are only worth the effort in dire situations.

NOTE: Foliar fertilization is not a long term remedy---It is a temporary fix for the issue(s) causing the need. Results are slow to see and color change is *usually* very gradual. Application must be applied 1-3 times per week to get satisfactory results.

For more details:

<https://www.ruralsprout.com/foliar-feeding/#:~:text=The%20idea%20for%20feeding%20plants%20nutrients%20through%20the,conducted%20at%20Michigan%20State%20University%20in%20the%201950s.>

Deciduous trees should be on our minds now according to Andrew Robson, who owns Rakuyo Bonsai in Portland, Oregon. He grows many species, many of which we do not grow in San Diego County. However, many of the methods apply to us here. Here are a few of his informative videos. Link to his videos: <https://www.youtube.com/@rakuyobonsai>

--When to start winter pruning and trimming of deciduous trees. Best info starts at about 5:00. You may be surprised a bit by the timing.

<https://www.youtube.com/watch?v=aoGhqSPPLlg&t=21s>

--When to stop pruning deciduous trees so as to prevent late growth.

<https://www.youtube.com/watch?v=mZtUIUxWVoc&t=283s>

--Wound reactivation on deciduous trees.

<https://www.youtube.com/watch?v=aoGhqSPPLlg&t=21s>

--Just for fun here is a short video clip on wiring a dormant flame style Gingko. Not much on wiring but it has a very good look at the branching layout.

<https://www.youtube.com/shorts/TWVA210Hx4Q>